

What is claimed is:

1. An integrated circuit (IC) providing identical functionality and performance in two selectable fabrication options, wherein:

a first selectable option comprises a user configurable circuit; and

5 a second selectable option comprises a hard-wired circuit in lieu of said user configurable circuit.

2. The IC of claim 1, wherein said first selectable option comprises a configurable Random Access Memory (RAM) module.

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3. The IC of claim 1, wherein said second selectable option comprises a Read Only Memory (ROM) module.

4. The IC of claim 1, further comprising:

15 an input; said input received at an input-pad; and

an output; said output generated at an output-pad; and

an input to output signal propagation delay, said delay substantially identical between said first and said second selectable fabrication options.

20 5. The method of claim 1, wherein providing said second selectable hard-wire circuit comprises at least one custom mask, said at least one mask facilitating:

a power-bus connection to replace a logic one in said configurable circuit; and

a ground-bus connection to replace a logic zero in said configurable circuit.

6. The IC of claim 2, wherein said RAM element is selected from one of volatile and non-volatile memory elements.

5 7. The circuit of claim 2, wherein said RAM element is selected from one of fuse links, anti-fuse capacitors, SRAM cells, DRAM cells, metal optional links, EPROM cells, EEPROM cells, flash cells, ferro-electric elements, optical elements, electro-chemical elements and magnetic elements.

10 8. A programmable logic device (PLD) comprising two selectable memory construction options to control logic, wherein:

a first selectable option comprises a random access memory (RAM) construction; and

a second selectable option comprises a hard-wire read only memory (ROM) construction.

15 9. The device of claim 8, wherein said first selectable option comprises a configuration circuit to configure said RAM.

10. The device of claim 8, wherein said second selectable option comprises mapping one of said first selectable option RAM bit patterns to a hard-wire ROM pattern.

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11. The device of claim 8, further comprising:

an input, said input received at an input-pad; and

an output, said output generated at an output-pad; and

an input to output signal propagation delay, said delay substantially identical between
said RAM and said ROM logic control options.

12. The device of claim 8, wherein said RAM element is selected from one of volatile
5 and non-volatile memory elements.

13. The device of claim 8, wherein said RAM element is selected from one of fuse
links, anti-fuse capacitors, SRAM cells, DRAM cells, metal optional links, EPROM cells,
EEPROM cells, flash cells, ferro-electric elements, optical elements, electro-chemical
10 elements and magnetic elements.

14. The device of claim 8, further comprising a pass-gate logic element, said logic
element providing a programmable means of electrically connecting or disconnecting two
nodes.

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15. The device of claim 14, wherein said programmable means in said first selectable
option comprises configuring a RAM bit, said RAM bit generating:
a logic one output to connect said two nodes; and
a logic zero output to disconnect said two nodes.

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16. The device of claim 14, wherein said programmable means in said second
selectable option comprises hard-wiring a ROM bit, said ROM bit providing:
a hard-wire to power-bus to connect said two nodes; and

a hard-wire to ground-bus to disconnect said two nodes.

17. A configurable pass-gate logic element for a PLD, said pass-gate electrically coupling two nodes, said configuration achieved by a memory element, said memory

5 element comprising two selectable construction options, wherein:

a first selectable option constitutes a random access memory (RAM) construction; and

a second selectable option constitutes a hard-wire read only memory (ROM) construction.

10 18. The element of claim 17, further comprised of a first node to a second node signal propagation delay, said delay substantially identical between said first and said second selectable memory construction options.

19. The element of claim 17, wherein constructing said second selectable hard-wire

15 ROM comprises at least one custom mask, said at least one mask facilitating:

a power-bus ROM connection to replace a logic one in said RAM element; and

a ground-bus ROM connection to replace a logic zero in said RAM element.

20. The element of claim 17, wherein said RAM element is selected from one of fuse

20 links, anti-fuse capacitors, SRAM cells, DRAM cells, metal optional links, EPROM cells, EEPROM cells, flash cells, ferro-electric elements, optical elements, electro-chemical elements and magnetic elements.